NOAA Fisheries
Coral Reef Conservation Program
Pacific Highlights

Marine Debris: NOAA Fisheries (National Marine Fisheries Service - NMFS) leads a major interagency partnership to clean up existing concentrations of derelict fishing gear in the Main and Northwestern Hawaiian Islands (NWHI). NOAA is collaborating with the National Ocean Service, the State of Hawaii, U.S. Fish and Wildlife Service, US Coast Guard, U.S. Navy, the University of Hawaii, and other agencies and NGO partners. In FY-2002 the debris removal efforts were expanded by beginning earlier in the year to take advantage of the improved weather. By the end of this six month effort divers had removed 107 metric tons of derelict fishing gear from throughout the NWHI. NMFS also began to identify the type of nets removed from the NWHI in order to determine which type of gear is most frequently encountered. Preliminary results indicate that trawl netting originating from trawl fisheries operating around the continental shelves of the Pacific Rim is most frequently encountered.


Collecting net samples from derelict fishing gear

In FY2003, NMFS and the National Ocean Service will continue to support marine debris removal from the NWHI. NMFS Honolulu Laboratory will lead this year's effort to remove derelict fishing gear and will continue to be document the gear type in order to help identify the likely source fishery. In addition, drifters will be deployed in the convergence zone (attached to derelict nets if possible) to monitor debris motion and support an airborne experiment to determine the feasibility of detecting debris in the open ocean.

Assessment and Monitoring of U.S. Pacific Coral Reef Resources: NMFS has been a key partner in understanding the unique resources of the NWHI and other remote Pacific Islands. In FY-2002, NMFS and led a major cruise to the American Samoa, U.S. Line, and Phoenix Islands and continued comprehensive assessment and monitoring in the NWHI to share assessment and monitoring techniques with local management authorities. This represents a significant new outreach effort to the U.S. territories and expanded the deployment of environmental monitoring stations in the Pacific by deploying 3 Coral Reef Early Warning System buoys and 6 sea surface temperature buoys.

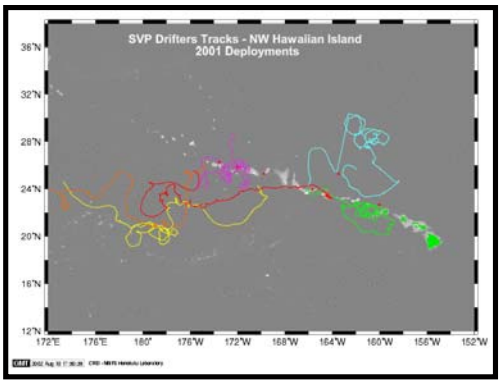

Surgeonfish at Rose Atoll, American Samoa

The aim of benthic and fish biological surveys is to collect information that can be analyzed, to characterize the habitat composition and to be able to detect ecologically significant changes over time. In FY-2003, NMFS will conduct monitoring trips to the NWHI and to Guam and the Commonwealth of Northern Mariana Islands (CNMI). Baseline assessments have previously been conducted in the NWHI and are nearing completion. Monitoring efforts will be expanded in the NWHI, documenting the benthic habitat at fixed locations over time in order to detect change. Baseline assessments will begin in Guam and the CNMI in order to help the local resource managers in these islands better understand their remote coral reef resources.

Evaluate the Effectiveness of Existing Coral Reef Marine Protected Areas: In FY-2002 NMFS continued to support state efforts to conduct a science-based assessment to determine the effectiveness of ecosystem conservation for the existing marine protected area system in the Main

Hawaiian Islands through the *Coral Reef Conservation Grants Program* . This includes both no-take and multiple use sites and links terrestrial work with DLNR, University of Hawaii, USGS and The Hawaii Nature Conservancy to the MPA effectiveness study and NOS-led habitat mapping and characterization efforts. This project offers a unique opportunity to link conservation actions from "ridge to reef."

Larval Transport from Coral Reef Reserves: NMFS has begun multi-disciplinary ecosystem studies of the dispersal of larvae from marine protected areas in the Pacific to determine the benefits that these areas may have for commercial fishery species throughout the Hawaiian archipelago. In FY-2002, NMFS deployed satellite-tracked drifter buoys in the NWHI and American Samoa in order to observe flow patterns affecting the transport and distribution of larvae. These data and other oceanographic measurements will allow modeling of subsets of populations linked by larval recruitment, assisting scientists and managers to assess optimal location, size, and management strategies for reserves and other marine protected areas. Data from the buoys are available for managers and researchers on the Coral Reef Ecosystem Investigation's website (http://crei.nmfs.hawaii.edu/). NMFS also completed an oceanographic atlas for the Main Hawaiian Islands (MHI) and Northwestern Hawaiian Islands (NWHI).



SVP drifter movement in the NWHI 2001 deployment

In FY2003, efforts to understand larval movement in NWHI will be expanded in order to assist mangers in determining larval sources and sinks within this system. Research will be conducted to determine if there is a physical and chemical difference in the habitats of the NWHI and the MHI that results in corresponding differences in elemental chemistry or growth rate history encoded in the otoliths of reef fishes. Benthic recruitment will be assessed by using an array of settlements plates, which will be spaced along the extent of the Hawaiian Archipelago. CREI will continue to deploy satellite-tracked drifter buoys and acoustic Doppler current profiler transects to examine upper ocean surface circulation patterns. Results of this study would provide the first sound empirical evidence for evaluating the larval dispersal issue within the NWHI-MHI.

Increase the Capacity of Coral Reef Fishery Management. In FY-2003, NMFS's Pacific Island Region will expand its presence in the U.S. Pacific Island territories by opening a satellite office in American Samoa. This Coral Reef Management Initiative will assist territorial resource managers in achieving sustainable balance between the forces of coastal development and preservation. This office will be closely coordinated with a number of existing programs, including the Western Pacific Regional Fisheries Management Council in order to implement the Coral Reef Ecosystem Fishery Management Plan; work with the NMFS Honolulu Laboratory in marine debris impact studies on coral reefs and GIS system development for Pacific Island coral reefs; and coordinate work with NOAA/NOS in the abandoned vessel inventory and removal planning for restoration of coral reef habitat. In addition, this office will develop a closer working relationship with local resource agencies in American Samoa to aid in identifying and designating marine protected areas, and other appropriate methods of protecting and conserving coral reef habitat.


Grouper in American Samoa